



culture, sport & recreation

MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA



***TRILINGUAL
ATMOSPHERIC SCIENCE
TERMINOLOGY LIST***

ENGLISH — ISINDEBELE – SISWATI

OCTOBER 2018

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PREFACE

The Mpumalanga Provincial Language Act 2014 encourages public servants to provide service to clients in their own language. It also encourages people to use their own languages and learn other languages (multilingualism). Terminology development is one of the vehicles through which the implementation of the Act will be facilitated.

The project is also in line with the Department's mandate of promoting multilingualism and developing the previously marginalized languages. This project entails developing field specific terminology lists in the designated indigenous languages of the Province (isiNdebele and Siswati).

The department believes that the Terminology list will contribute to:

- developing isiNdebele and Siswati and promote multilingualism
- promoting the use of indigenous languages by all spheres of government and business
- providing standardized atmospheric science in isiNdebele and Siswati
- enhancing the quality of translating and interpreting of atmospheric Science documents

- increasing the atmospheric science term bank for indigenous languages.
- teaching of indigenous languages in schools.

In undertaking this project, the Department depended on collaboration with its external professional stakeholders: namely, linguists, subject specialists, language practitioners and PanSALB. The South African Weather Services (SAWS) nominated subject specialists to participate in the project.

The list comprises of 502 terms.



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TRILINGUAL ATMOSPHERIC SCIENCE TERMINOLOGY LIST

ENGLISH	SISWATI	ISINDEBELE
absorption	kumunyeka kudvonseka kumunceka	ukumunya
absorption band	incenye lesidvonsamisebe/ lesimunyamisebe/ lesimuncamisebe	ingcenye yebhende yokumunya
absorptivity	silinganiso sekudvonseka/ sekumunyeka/ sekumunceka silinganisokudvonseka	isilinganiso sokumunya
abundance	ngalokwecile ngalokwedlulele ngalokungetulu	ubenengi bento
acceleration	kufaka umfutfo kwengeta sivinini/ litubane lungetolitubane lungetosivinini lungetomfutfo	ukurhaba
accretion	kubutsana kwematfonsi kugcogceka kwematfonsi	ukudluliswa komtjhiso ngesikhwamazingakutjhi sa esivulekileko

ENGLISH**SISWATI****ISINDEBELE****acid rain**imvula lenebumunyu/
lenebusawotana/
lene-esidi

izulu le-esidi

**adiabatic heat
transfer**Iwendlulisokushisa
lolutimeleukudluliselwa komtjhisu
ngesikhwamazingakutjhi
sa esivulekileko**adiabatic lapse
rate**lizingakushisa lelitimele
lelehla ngekwenyukaizinga lokwehla/
lokwenyuka
kwesikhwamazingakutjhi
sa esivalekileko**adiabatic
process**inchubo letimele/
lengenakungenelela
kwangaphandleikambiso
yesikhwamazingakutjhis
a esivalekileko**adsorbtion**

kunamatsela

ukunamathela

advectionkuhamba ngekuvundla
kuvundla kwemoya

ukuvundla

advection fog

inkhungu levundlako

ukuvundla kwekungu

**advective heat
transfer**Iwendlulisokushisa
loluvundlakoukudluliselwa komtjhisu
ngokuvundlileko

ENGLISH	SISWATI	ISINDEBELE
aerial photography	kutfwebula usemoyeni	ukuthathwa kwesithombe usemkayini
aerial survey	luhlolo usemoyeni luphandvo usemoyeni	ibuthelelolwazi ngeenthombe zemkayini
aerosol	tinhlayiyana	iinhlaselana
ageostrophic wind	umoya lophambukako	ummoya ovundla umudamfutho
agroclimatology	sifundvo ngesimotulu netekulima	isifundo ngezokulima nobujamo netlayimethe
agulhas current	umsinga i-agulhas	umsinga we-agulhas
air	umoya	ummoya
air bubble	libhamutamoya	ibhamuza lommoya
air density	sisindvomoya	ubudisi bomthamo wommoya
air discharge	kuphuma kwemoya	ukuphuma kommoya
air flow	kuhamba kwemoya kuphephetsa kwemoya	ukuphephetha kommoya
air mass	bungakomoya umtsamomoya	ubudisi bommoya

ENGLISH	SISWATI	ISINDEBELE
air pollution	lungcolisomoya kungcola kwemoya	isilaphazommoya
air temperature	lizingakushisa lemoya	izingakutjhisa lommoya
airstream	umgudvumoya	umthala wommoya
albedo	silinganisomisebe lebuyela emuva/ lencandzekako i-albedo	ibuyamaza lelanga
altimeter	i-althimitha	i-althimitha
altitude	siphakamandzawo i-althishudi	ukuphakama ngehla kwelwandle
altocumulus	i-althokhumulasi	ilifu ialthikhumulasi
altostratus	i-althostrathasi	ilifu i-althostrathasi
amplitude {e.g. wave}	kuphakama kweligagasi i-amplishudi	isilanganiso samaza/ i- amplitjhudi
anabatic flow	lwenyukomoya luphakamomoya	ummoya okhuphuka umbundu/ ummoya okhuphuka umenyuka
ana-front	umsinga lowenyukako	ukukhuphuka kommoya otjhisako
anemometer	i-anenomitha	isilinganisibelo sommoya

ENGLISH	SISWATI	ISINDEBELE
	silinganisi sesivininimoya/ selitubanemoya	i-anemomitha
annual climate anomaly	luphambuko lwesimotulu lwemnyaka	itlayimethi engakajayeleki enyakeni
annual cycle	umjikeleto wemnyaka	umzombe womnyaka
anomaly	luphambuko	-ngakajayeleki
anti-wind	umoya lophikisako/ lophikako umoya lowalako/ lowehlukako	ukuphambana kwemimoya
anticyclone	i-antisayikloni imphambanosishingisha ne	ummoya ophambana nomunye
anticyclone curvature	lijika lemphambanosishi ngishane	ummoya ophendukela burhole
anticyclonic motion	kujikeletela ngesancele	ijika lomoya ophendukela burhole
anticyclonic shear	kugucugucuka ngesancele ngekuphakama	ukuphenduphenduka komoya burhole ngokwenyuka

ENGLISH	SISWATI	ISINDEBELE
anticyclonic systems	tinhlelo temphambanosi shingishane	amarherho wommoya aphenduka burhole
antivalley wind	lwehlomoya lwewukomoya	ummoya owehla emrhobeni
anvil	lifunkhombandlela	isikhephetjhe selifu
aphelion	khashane nelilanga ekudzeni nelilanga i-afiliyoni	i-aphaliyoni
ascent of air	kwenyuka kwemoya kukhuphuka kwemoya	ukukhuphuka kommoya ukwenyuka kommoya
atmosphere	umkhatsi	ummoya ozomboleze iphasi/ i-athimosfere
atmospheric boundry layer	umkhawulomkhatsi umncelemkhatsi umnyelemkhatsi	ilihla/ ilarha elimkhawulo lomoya elizombeleze iphasi
atmospheric circulation	umjikeletomkhatsi	umzombelezo wommoya ongehla kwephasi
atmospheric forcing	incindzetelomkhatsi	isigandelelo sommoya ozombe iphasi

ENGLISH**SISWATI****ISINDEBELE****atmospheric model**sifanisomkhatsi
simelimkhatsi
sibonिसomkhatsi
sifanekisomkhatsiumfuziselo wommoya
ozombe iphasi**atmospheric pollutant**singcolisimkhatsi
sinukubetimkhatsiiinsilaphazi zommoya
ozombe iphasi**atmospheric pressure**luminyanomkhatsi
incindzetelomkhatsiisigandeleli sommoya
ozombe iphasi**atmospheric thermodynamics**sifundvo ngekushisa
kwemkhatsi
sifundvo lushisomkhatsiitjhuguluko lomtjhiso
emkayini**attenuation**lwehlo mandla
lwekuchumanisa/
lwekuchumana
kudzamba
kwekuchumanisa/
kwekuchumana

ukudamba

autumn

likwindla

isiruthwana

backing of the windkujikela ngesancele
kwemoya
kugwedlela ngesancele
kwemoyaukutjhuguluka komtlhala
wommoya burhole

ENGLISH	SISWATI	ISINDEBELE
baroclinic	-neluminyanohlukene -neluminyanongafanani	ukungathelelani kwemimmoya
barometer	silinganisi seluminyanomkhatsi i-bharomitha	ibharomitha
barotropic	-neluminyanofanana	ukuthelelana kwemimmoya
Benguela Current	Umsinga i-Benguela	umSinga iBhengwela umSinga i-Benguela
berg winds	lishisandlu	itjhisasikhotha
biomass	linanimphilo sisindvomvelo linanimvelo	ibhayomasi
biomass burning	kusha kwemvelo/ kwelivungu kushiswa kwemvelo/ kwelivungu	ukutjhiswa kwebhayomasi
biosphere	indzawomphilo	indawo yokuphilako
blocking highs	luminyanomkhatsi loluphakeme lolusivimbeli	ijamo lommoya ophenduka burhole

ENGLISH	SISWATI	ISINDEBELE
boundary layer	libhande lemkhawulo/ lemncele/ lemnyele	Ilihla/ ilarha lomkhawulo
breeze	umheleto	ommoya ophephetha kancani
buoy	silinganisimo lesintantako	isiphaphamali/ isipapamaliso sokulinganisa
buoyancy	-nekuntanta	ukuphaphamala/ ukupapamala
Buys Ballot Law	Umtsetfo wa-Buys Ballot	uMthetho ka Buys Ballot
C.A.P.E	i-C.A.P.E (emandla ladzingekako kute kukhuphuke umhwamuko)	i -C.A.P.E
carbon dioxide	sikhutsa ikhabhonidayoksayidi	ikhabondayi-okisayidi
carbon monoxide	ikhabhonimonoksayidi	ikhaboni-monokisayidi
cartography	tekudvwetjwa kwemabalave ikhathografi	ikghono lokudweba umebhe

ENGLISH	SISWATI	ISINDEBELE
centrifugal force	emandla lakhafulwa ngumjikeleto	amandla aphumako
centripetal force	emandla lagwinywa ngumjikeleto emandla ladvonswa ngumjikeleto	amandla adosela ekabeni
circulation	kujikeleta	umzombelezo
cirrus cloud	lifu isirasi lifumahwidzihwidzi	amafu isirasi imilaza
clear air turbulence	buyaluyalu bekushayisana/ bekungcundzana kwemimoya	iinwuruwuru/ amawuruwuru
climate	simomvama selitulu	ubujamo bezulu itlayimethi
climate change	kugucuka kwesimomvama selitulu	ukutjhuguluka kobujamo bezulu ukutjhuguluka kwetlayimethi
climate model	siboniso/sifaniso sesimomvama selitulu	umfuziselo wobujamo bezulu umfuziselo wetlayimethi
climatic variation	kugucugucuka kwesimomvama selitulu	ukutjhugutjhuguluka kwetlayimethe

ENGLISH	SISWATI	ISINDEBELE
	kuntjintjantjintja kwesimomvama selitulu	
climatology	sifundvo sesimomvama selitulu	isifundo setlayimethe
cloud	lifu	lifu
cloud band	ludwendvwe lwemafu libhande lemafufu	ibhande lamafufu
cloud base	sendlalelolifu	ilingaphasi lelifufu
cloud cover	bungako bemafufu	isigubuzeso somkayifufu
cloud dissipation	kuhlakateka kwemafufu kuphela kwemafufu kusakaka kwemafufu	ukutjhabalala kwemafufufu
cloud droplets	ematfonsana emafufu	amathosana wemafufufu
cloud formation	kwakheka kwemafufufu	ukwakheka kwemafufufu
cloud height	kuphakama kwemafufufu	ukuphakama kwemafufufu
cloud modification	kuguculwa/kuntjintjwa kwemafufufu kubunjwa kwemafufufu	ukugululwa kwemafufufu
cloud seeding	sikhutsatimvula	ukunothiswa kwemafufufu

ENGLISH	SISWATI	ISINDEBELE
	kukhutsata emafu	
cloud temperature	lizingakushisa lemafu	izingakutjhisa lamafu
cloud types	tinhlobo temafu	imihlobo yamafu
coalescence	kuhlngana	ukulumbana kwamathosana
coastal low	luminyanomkhatsi loluphasi elugwini	ummoya weligwini ophendukela ngesidleni
cold cloud	lifu lelibandzako	ilifu elimakhaza
cold front	umsinga lobandzako	ummoya omokhaza
collision	kungcubutana kushayisana kungcundzana	ukulumbana kwamathosana
compass	sikhombamagumbi inkhombandlela ikhampasi	Ikhamphasi i-compass
compressed air	umoya locindzetelekile umoya locindzetelwe	ummoya ogandelelekileko

ENGLISH	SISWATI	ISINDEBELE
condensation	kugucuka kwehwamuko ubengemanti	ukutjhuguluka komrhwamuko ubemamanzi
condensation level	lizinga lekugucuka kwemhwamuko	izinga lokutjhuguluka komrhwamuko ubemamanzi
condensation nuclei	tinhlayiya kutiyisa tinhlayiya tekugucuka	linhlaselana
condense	tiyisa shubisa	ukutjhugulula umrhwamuko ubemamanzi
conduction	lwendlulisomandla lutfubeletisomandla	ukudliswa
conductivity {e.g. sea water}	bundlulisomandla	isilinganiso sokudlulisa
contaminant	singcolisi sinukubeti	Isisilaphazi
continent	livekati	inarhakazi/ ikhontineti
continental borderland <see also borderland>	lusentse/lugu	umkhawulo wenarhakazi umkhawulo wekhontineti

ENGLISH	SISWATI	ISINDEBELE
continental crust	lucwecwe lwemhlaba	ilihla/ilarha langaphezulu lenarhakazi Ilihla/ilarha langaphezulu lekhontineti
continental drift	kwehlukana kwelivekati luchekeko lwelivekati	ukutjhida kwenarhakazi ukutjhida kwekhontineti
continental margin	umncele/ umkhawulo/ umnyele welivekati	isikhalamkhawulo senarhakazi isikhalamkhawulo sekhontineti
continental plateau	inkhangala yelivekati	umbundu wenarhakazi umbundu wekhonthinedi
continental rise	kuphakama kwelivekati	umenyuka wenarhakazi umenyuka wekhonthineti
continental shelf (continental platform)	lishelufu lelivekati sibebesi selivekati	indawo engatjhugulukiko emkhawuleni welwandle
continental slope	umenyuko welivekati	umehlala womkhawulo wolwandle
contour line	likhondvosi umugca wekulinganisa kuphakama	umuda wekhonthuwa
contour n.	likhondvosi	i-khonthuwa

ENGLISH	SISWATI	ISINDEBELE
	umugca wekulinganisa kuphakama	i- contour
convection	kwenyuka/ kukhuphuka/ kuphakama kwemhwamuko	ukwenyuswa komrhwamuko ngelanga
convergence	inhlanganomoya	ukuhlangana kwemisinga
convergence zone	enhlanganomoya	ubuhlanganelo bemisinga
cool air	umoya lopholile	ummoya opholileko
coriolis force	emandla i-coriolis	amandla wekhoriyolisi amandla we-coriolis
corona	ikhorona lucwecwe lwelilanga	ikhorona i-corona
crust {e.g. earth}	lucwecwe	ilihla langaphezulu ilarha langaphezulu
cumulonimbus	lifu lesangcotfo/ lelihlomile ikhumulonimbasi	ilifu ikhumulonimbasi i-cumulonimbus
cumulus	lifu lelincwabelene ikhumulasi	ilifu ikhumulasi i-cumulus

ENGLISH	SISWATI	ISINDEBELE
cutoff low	luminyanomkhatsi loluphasi loluhlephukile	ikgheruka lesiwuruwuru
cyclogenesis	kwakheka/kuphehleka kwesishingishane sisusa sesishingishane	ukwakheka kwesiwuruwuru
cyclone	sishingishane isayikloni	isiwuruwuru esikhulu
data	imininingwane idatha	Imininingwana i-data
data collection	kugcogcwa kwemininingwane kugcogcwa kwedatha	ibuthelelo lemininingwana ibuthelelo le-data
data processing	kuhlelwa kwemininingwane/ kwedatha	ukusetjenziswa kwemininingwana/ kwe- data
data storage	kugcinwa kwemininingwane/kweda tha kulondvolotwa kwemininingwane/kweda tha	ibulungelo lemininingwana/ le-data
datum {e.g. tide, chart}	inkhombasicalo	i-dathamu i-datum

ENGLISH	SISWATI	ISINDEBELE
descent of air	kwehla kwemoya	ukwehla kommoya
dew-point line	umugcamhwamuko wematolo	ihlukaniselo lombethe
dew-point temperature	lizinga lekushisa lelakha ematolo lizingakushisa lelilawula kwakheka kwematolo	izingakutjhisa lombethe
adiabatic heating	kushisa lokunekungenelela kwangaphandle kushisa lokungakatimeli	ukufuthunyezwa kwesikhwamazingakutjhi sa esivulekileko
adiabatic process	inchubo lenekungenelela kwangaphandle/ lengakatimeli	ikambiso yesikhwamazingakutjhi sa esivulekileko
diffraction	kutsikameteka/kuphaza miseka kwemagagasi	ukuthikaziseka kwamaza
diffraction diagram	umdvwebo wekuphazamiseka/ wekutsikameteka kwemagagasi	umdwebo wokuthikaziseka kwamaza
diffuse radiation	imisebe lendlulele/ lefinyelele emhlabeni	imisebe yelanga

ENGLISH	SISWATI	ISINDEBELE
direction	indlela	Ikomba
discharge	kuvulela	Ukuphuma
dispersion	kuhlakateka kusakateka	ukurhatjheka/ ukusabalala
dissipation	kwehla kuncipha kuphelelwa	ukutjhabalala
distribution	kusabalala	-sabalalisa
disturbing force	emandla laphazamisako/ latsikametako	amandla athikazisako
diurnal	kwelusuku lonkhe kwelilanga lonkhe idayunali	ngelanga
diurnal cycle	umjikeleto welusuku/welilanga umjikeleto wedayunali	umzombe ngelanga
diurnal inequality	kushiyana ngelilanga/ngelusuku kushiyana ngedayunali	ukutjhiyana ngelanga

ENGLISH	SISWATI	ISINDEBELE
diurnal range	umehlukosilinganiso ngelilanga/ngelusuku umehlukosilinganiso ngedayunali	umehluko ngelanga
diurnal variation	kugucugucuka ngelilanga/ngelusuku kuntjintjantjintja ngelilanga/ngelusuku kugucugucuka ngedayunali	ukutjhuguluka ngelanga
divergence	inhlukanomoya kwehlukana kwemoya	ukuhlukana
doldrums (equatorial calm)	emadoldramu ekuthuleni kwenkhabave	amadoldramu ama- doldrums
doppler effect	umtselela ngekwa- doppler	i-doppler effect
downdraught	umoya lowehla ngemandla efini	ummoya owehla elifini ngokurhabako
downstream	sihoshha lesehlelako sihoshha lesewukelako/lesingume wuko	ngenzasi lomlanjana
drag	emandla labambelelako	ukurema

ENGLISH**SISWATI****ISINDEBELE**

	idregi emandla lasimbatsekako	
drag reduction	kwehliswa kwemandla labambelelako/lasimbats ekako	ukunyefisa
droplets	ematfonsana	amathosana
drought	somiso	isomiso
dry adiabatic lapse rate	lizingangucuko lekushisa lemoya lowomile lelitimele	izinga lokwehla nokunyuka kwesikhwamazingakutjhi sa esomileko esivalekileko
dry adiabats	umugcalizinga lemoya lowomile	umuda wokulinganisa ukwehla nokwenyuka kwesikhwamazingakutjhi sa esivalekileko
dry spell	somiso sesikhashane	ukubalela
drybulb potential temperature	lizingakushisa lelingabakhona	izingakutjhisa elingaba khona
drybulb temperature	lizingakushisa	izingakutjhisa

ENGLISH	SISWATI	ISINDEBELE
dust	lutfuli	ithuli
dust cloud/storm	lifu/siphepho selutfuli	ilifu lethuli/ lesiwuruwuru
dust devil	sivunguvungwana siphuphutseki	isivunguvingwana
dust particle	inhlayiya yelutfuli	iinhlaselana zethuli
earth	umhlaba	iphasi umhlaba
earth magnetic field	emandla ekubutsa emhlaba emandlakubutsa emhlaba	amandla kazibuthe wephasi/ womhlaba
earth quake	kutamatama kwemhlaba	ukuzamazama kwephasi/ komhlaba ukudengezela kwephasi/ komhlaba
earth radiation	imisebe yomhlaba	amandla wephasi/ womhlaba
earth rotation	kujikeleta kwemhlaba kutungeleta kwemhlaba	ukuzombezeza kwephasi/ komhlaba
earth sciences	isayensi yetemhlaba	isayensi ngephasi/ ngomhlaba

ENGLISH	SISWATI	ISINDEBELE
earth surface	lingetulu lemhlaba buso bemhlaba	ingaphezulu lephasi
easterlies	umoya wemphumalanga imphumalanga	imimmoya evela epumalanga
easterly jet	umoya wemphumalanga lonesivinini imphumalanga lenesivinini	umtlhala wommoya ogijimako ovela epumalanga
easterly low (coastal low)	umoya wemphumalanga loneluminyanomkhatsi lophasi imphumalanga leneluminyanomkhatsi loluphasi	ummoya wepumalanga ophendukela ngesidleni
effective temperature	lizingakushisa lelinemandla	izingakutjhisa elilinganiswa ngemisebe yelanga
El Niño	i-EI Ninyo	ubujamo besomiso i-EI Niño
emissivity	lizinga lekukhipha imisebe	isilinganiso sokukhutjiswa kwemisebe
energy balance	kulingana kwemandla	ukunzinziswa kwamandla

ENGLISH	SISWATI	ISINDEBELE
	kusimama kwemandla/kwemfutfo	
energy conversion	kugucula/kuntjintja emandla/umfutfo	ukutjhugululwa kwamandla
energy dissipation	kwehla kwemadla kuncipha/kwemfutfo kwemandla/kwemfutfo	ukutjhabalala kwamandla
energy equation	sibalo semandla/	isabelo samandla
energy exchange	kuphakelana emandla kuntjintjiselana emandla kunikana emandla kuphana emandla	ukurweyilelana ngamandla ukutjintjelana ngamandla
energy flow	kuhamba kwemandla	ukukhamba kwamandla
energy flux	kuhamba ngebunyenti kwemandla	umthamo wamandla
energy transfer	kwendlulisa emandla kwengcisa emandla kuhambisa emandla	ukudluliselwa kwamandla
entrainment	kungenelana kwemimoya kuhlangana kwemimoya kubhicana kwemimoya	ukuvangana

ENGLISH	SISWATI	ISINDEBELE
environment	simondzawo/bunjalondza wo	Ibhoduluko
environmental lapse rate	lizinga lekwehla lesimondzawo lizingakwehla lesimondzawo	ukwehla nokwenyuka kwezinga lebhoduluko
equation of motion	sibalomnyakato	isibalo sokukhamba
equation of state	sibalosimo sibalobunjalo	isibalo sobunjalo
equator	inkhabave	ikabazwe
equatorial divergence	inhlukanomimoya yenkhlabave	ukuhlukana kwemimoya esekabazwe
equatorial westerly	umoya wenshonalanga yenkhlabave inshonalanga yenkhlabave	imimoya yetjhingalanga esekabazwe
equinox	kulingana kwemini nebusuku i-ikhwinoksi	ukulingana kwemini nobusuku

ENGLISH	SISWATI	ISINDEBELE
escarpment (scarp)	lukhahlamba tintsabaluchungechunge	ummango otjhigameko/ otjhigamileko
evaporation	kuhwamuka	umrhwamuko
evapotranspiration	umhwamukomvelo umhwamukondalo	umrhwamukommila
extratropical cyclone	sishingishane sangaphandle kwetinjika	isiwuruwuru esakheke ngaphandle kwekabazwe
eye of storm	liso lesiphepho inkhaba yesiphepho	ilihlo lesiwuruwuru
flash flood	sikhukhula sesikhashana	iinkhukhula zesikhatjhana
flood n.	sikhukhula	linkhukhula
fog dissipation	kuncipha kwenkhungu kwehla kwenkhungu	ukutjhabalala kwekungu
fog n.	inkhungu	ikungu
force n.	emandla	amandla
forced convection	lwenyukomhwamuko loluphocelwe	ukunyuswa komrhwamuko ngokukatelelwa
forecasting	kubhula	isibikezelo

ENGLISH**SISWATI****ISINDEBELE**

	kubiketela kuphengula kuhlahla	
free convection	lwenyukomhwamuko lolukhululekile	ukunyuswa komrhwamuko ngelanga
freezing level	lizinga lekwakheka kwelichwa	izinga lokukghadza
freezing point	sigaba sekwakheka kwelichwa	izinga lokugongobala
friction	kuhudlana kugudlana kuhhedlana kuhubulana	ukurhuhlana
front	umsinga	ekuhlanganeni kwemimmoya
frontal system	luhlelomisinga kuhleleka kwemisinga	irherho lokuhlangana kwemimmoya
gale	siphepho saselugwini umoya lonemandla waselugwini umoya lohusha elwandle	Isiphepho

ENGLISH	SISWATI	ISINDEBELE
geopotential	emandla ekudvonseleka phansi	amandla wedoselekophasi alinganako angaba khona
geopotential height	kuphakama kwemandla ekudvonseleka phansi	ukuphakama kwamandla wedoselekophasi alinganako angaba khona
geopotential surface	lingetulu lemandlakulingana ekudvonseleka phansi	i/lingaphezulu lamandla wedoselokophasi alinganako angaba khona
geostrophic wind	umoya lohambisana nemugca weluminyano lolulinganako	ummoya olinganisene nomudamfutho
global scale	ngekwemhlaba wonkhe	ephasini zombebele emhlabeni zombebele
global warming	kufutfumala kwemhlaba wonkhe jikelele	ukufuthumala kwephasi
gradient wind	luntjintjosimo semoya ingucukosimo semoya	imimmoya ekhambisana nemidamfutho
greenhouse gases	sisi lesisibamba kushisa	amarhasi abanga ukufuthumala komhlaba

ENGLISH	SISWATI	ISINDEBELE
gust	sivutsevutse sibhengubhengu mabhengwane	ummoyadumuza
gust front	umsinga wesibhengubhengu umsinga wesivutsevutse umsinga wamabhengwane	ummoyadumuza obangwa kuhlanguana kwemimmoza
hail	sangcotfo	isininja isiwezulu
haze droplets	ematfonsana eluvitsi ematfonsanaluvitsi	amathosana wefiphalo
haze layer	ingubo yeluvitsi libhande leluvitsi	ilihla lefiphalo
heat	kushisa	umtjhiso
heat balance	kusimama/kulingana kwekushisa	ukulingana komtjhiso
heat budget	sabelokushisa umgodlakushisa	isabelo somtjhiso isabelomtjhiso
heat capacity	bungako bekushisa bungakokushisa	umthamo womtjhiso

ENGLISH	SISWATI	ISINDEBELE
heat conduction	kwendlulisa kushisa kwengcisa kushisa	ukudluliswa komtjhisio
heat conductivity (thermal conductivity)	kwedluliseka kwekushisa	amandla wokudlulisa umtjhisio
heat exchange	kushisisana	ukutjhintjana komtjhisio
heat wave	sifutsefutse	umtjhisio odluleleko
high	luminyanomkhatsi loluphakeme	ummoya ojikela burhole
humidity	umswakamo	ubusweswe
hydrostatic equation	sibalokutinta kwemanti	isibalo setlelezi elinzinzileko
hydrostatic equilibrium	kutinta kwemanti kusimama kwemanti	ubunzinzizo betlelezi
incoming solar radiation	imisebe yelilanga	amandla welanga
instability	kungasimami kungatinti	ukungakanzinzi
instrument housing	sivikelimathulusi sigcinimathulusi	ibulungelomathulusi

ENGLISH**SISWATI****ISINDEBELE**

(stevenson
screen)

**intertropical
convergence
zone (itcz)
inversion**

inhlanganomimoya
yenjika
(itcz)
ingucukushisa
ingucuko kushisa

isiphande
sehlanganyelommoya
ekabazwe
iphekghuko

isallobar

umugca
wenguculuminyano
lolulinganako
i-isalobha

umudatjhuguluko
womfutho wommoya

isobar

umugca weluminyano
lolulinganako
i-ayisobha

umudamfutho wommoya

isobaric surface

lingetulu lweluminyano
lolulinganako

indawo enobudisi
bommoya obulinganako

isotherm

umugca
welizingakushisa
lelilinganako

umuda wezingakutjhisa

jet stream

umgudvumoya
lonesivinini

umtlhala wommoya
ogijimako

ENGLISH	SISWATI	ISINDEBELE
katabatic flow	lwewukomoya lwehlomoya	ummoya owehla embundwini
katafronts	umsinga lowewukako umsinga lowehlako	ukwehla kommoya otjhisako wehlanganomimmoya
kelvin scale	silinganisikushisa se- kelvin	i-kelvin scale
knot	inothi	i-knot
La Niña	i-La Ninya	i-La Nina
land breeze	umoyana welive umheleto welive	ummoya ophephethako wephasi
land sky	litfunti	amanzimana
land-sea breeze	umheletelo welive nelwandle umheletelo welive nelwandle	ummoyanamvango ummoyanaqarha
lapse condition	simo sekwehla kwelizinga lekushisa	ubujamo bokutjhuguluka
lapse rate	lizinga lekwehla kwekushisa ngokuphakama	izinga lokutjhuguluka

ENGLISH	SISWATI	ISINDEBELE
latent heat	kushisa lokufihlakele kushisa lokubhacile	umtjhisso orhwamukisako
latent heat flux	kushisa lokukhulu lokufihlakele kushisa lokukhulu lokubhacile	umthamo wokutjhisso womtjhisso orhwamukisako
latitude	imigca levundlako yelibalave ilathishudi	Ilathitjjudi
lee	lisitse inkhwace	Ifulathelammoya
lee trough	luminyanomkhatsi loluphansi lolusenkhwace luminyanomkhatsi loluphasi lolusesitse	ummoya ojikela ngesidleni efulathelammoya
leeward	esitse enkhwace	-sithekileko emmoyeni
lenticular clouds	emafu lasamapilingi emafu lasamasoso	amafu welenthikhyula we-lenticular
lifting condensation level	kwakheka kwematolo ikhondenseshini	izinga lokutjhuguluka komrhwamuko ube mathosana

ENGLISH	SISWATI	ISINDEBELE
lightning	umbani	umphezulu umbani
line squall	libhande lesiphepho libhandesiphepho	-irhemo lamafu
local scale	ngekwesigodzi	-kwendawo
local winds	umoyasigodzi	imimmoya yendawo
long wave radiation	imisebe yemagagasi lamadze	umtjhiso womhlaba/ wephasi
longitude	umugca lomile welibalave ilongishudi	ilongitjhudi i-longitude
low	luminyanomkhatsi loluphasi	ummoya ojikela ngesidleni
map	libalave	umebhe
map projection	umdvwebo welibalave	ukubonakaliswa komebhe
mean circulation	umjikeleto lotayelekile umjikeleto lovamile	umzombe ovamileko
mean sea level (MSL)	kuphakama kwelwandle lokuvamile	ileveli yelwandle evamileko

ENGLISH	SISWATI	ISINDEBELE
	kuphakama kwelwandle lokwetayelekile	
mean temperature	lizingakushisa leletayelekile lizingakushisa lelivamile	izingakutjhisa elivamileko
melting point	sigaba sekuncibilika	izinga lokuncithika/ lokuncibilika
meridional circulation	umjikeletomoya loncongako/ lompokako	umzombelezo womudamhlaba ojamileko
meridional flow	kuncongana nekumponga kwemoya kwehla nekwenyuka kwemoya	ukulinganisana nomudamhlaba ojamileko
mesoscale	ngekwesifundza	-kwesiphande
meteorological balloon	ibhaluni yetesimolitulu	ibhaloni yobujamo bezulu
meteorological data	imininingwane yetesimolitulu idatha yetesimolitulu	iincozululi zobujamo bezulu
meteorological model	sifanekiso setesimolitulu sibukiso setesimolitulu	umfuziselo wobujamo bezulu

ENGLISH**SISWATI****ISINDEBELE**

	siboniso setesimolitulu simeli setesimolitulu	
meteorological tide	ligagasi ngekwesimolitulu	ukunaba nokurhunyela/ nokurhobha kwelwandle ngobujamo bezulu
meteorology	sifundvo setesimo selitulu	isifundo sobujamo bezulu
microscale circulation	umjikeletomoya ngekwesigodzi	umzombelezo wesigodi
Mie scattering	kusakateka kwemisebe ngekwa-Mie	ukurhatjheka kwemisebe ngokuka-mie
mixed cloud	lifu lelucubile	amafu avangileko
mixing layer	libhande lelicubile/ leliyinhlanganisela	ilihla lokuhlanganisela ilarha lokuhlanganisela
mixing ratio	linanicatsaniso lelicubile/ leliyinhlanganisela	iretjhiyo yehlanganisela
moisture	umswakamo	umswakamo
moisture flux	kuhamba ngebunyenti kwemswakamo	umthamo womswakamo

ENGLISH	SISWATI	ISINDEBELE
monsoon	imonsuni	ummoya wezulu oswe ummoya we-monsoon
monsoon wind	umoya wemonsuni	ummoya wezulu oswe
mountain wind	umoya wentsaba	ummoya owehla entabeni
multi-cell storm	siphepho lesitikhatsakhatsa	isiwuruwuru esiziingabagaba
multi-layer atmospheric model	sibonisomkhatsi lesimabhandebhande	umfuziselo wommoya ozombe iphasi oziingabagaba
North Pole	Ingcongwane Yenyakatfomhlaba Sikhonkwane Senyakatfomhlaba	iPholi leTlhagwini
northerlies	umoya wenyakatfo inyakatfo	immoya evela ngetlhagwini
Northern Hemisphere	Inyakatfonkhabave	isiQuntu seTlhagwini sephasi
nowcasting	umhlahlo welitulu wanyalo sibiketelomadvute	ukuhlolwa kobujamo bezulu banje

ENGLISH	SISWATI	ISINDEBELE
numerical forecasting {meteorology}	kubiketela ngetinombolo	ukubikezela ngeenomboro
numerical modelling	kufanekisa ngetinombolo kubonisa ngetinombolo	ukufuzisela ngeenomboro
occluded front	umsingambaca	umsingamvango
ocean	lwandlekati	ilwandlekazi/ ilwandle elikhulu
ocean-atmosphere interaction	luchumano lwemkhatsi nelwandlekati	ukusebenzisana kwelwandlekazi nomkayi
oceanic circulation	umjikeleto welwandlekati	umzombelezo welwandlekazi
offshore	umoya welugu loya elwandle	okungena ngelwandle
onshore	umoya welwandle loya elugwini	okuphuma elwandle
ozone	i-ozoni	irhasi ye-ozone
Pacific Ocean	Lwandlekati i-Pacific	Ilwandlekazi i-Pacific
peninsula	sihlenge	isigegemana

ENGLISH	SISWATI	ISINDEBELE
perihelion	dvute/ dvute kakhulu nelilanga iperiheliyoni	i-perihelion
plateau	inkhangala	umbundu
polar front {atmospheric}	ihlukanomisinga	ihlanganyelomimoya yemapholini
polar jet	sivinini setingcongwane temhlaba	umtlhala wommoya ogijimako wepholini
polar region	indzawo yasetingcongwaneni temhlaba	isiphande/ isifunda semapholini
precipitation	kuna kukhitsika	ukuna, umkhithiko
pressure	luminyano	isigandelelo
pressure gauge	sikaliluminyano silinganisiluminyano	Isilinganisosesigandelele o igeyjji yesigandelelo
pressure gradient	kwehla kweluminyano	ikombatjhuguluko yesigandelelo

ENGLISH	SISWATI	ISINDEBELE
pressure gradient force (pressure force)	emandla ekwehla kweluminyano	amandla wetjhuguluko lesigandelelo
pressure tendency	umkhuba weluminyano sichelo seluminyano	umukghwa wesigandelelo
pressure unit	linani leluminyano sikalo selumunyano	iyunithi yesigandelelo
radar	irada liso lelive	i-rada i-radar
radar imagery	sitfombe selisolelive umfanekiso welisolelive	isithombe se-rada isithombe se-radar
radiation	imisebe	Imisebe
radiation balance	kusimama kwemisebe kulingana kwemisebe	ukulinganisana kwemisebe
radiation thermometer	sihlolikushisa kwemisebe	ithemometha yemisebe
radiative inversions	ingucukushisa yemisebe injikakushisa yemisebe	iphekghukomtjhiso lemisebe
radiosonde	sicophimkhatsi umsakatosicophi sitsebulimkhatsi	i-radiosonde

ENGLISH	SISWATI	ISINDEBELE
radiosonde profile	imininingwane yesicophimkhatsi/ yemsakatosicophi/ yesitsebulimkhatsi	ingcenyane yomkayi elinganiswa yi- radiosonde
rain	imvula	izulu
rainfall	litulu	ukuna kwezulu
rainfall duration	sikhatsi sekuna kwelitulu	ubude besikhathi sokuna kwezulu
rainfall frequency	emahlandla ekuna kwemvula	ukuna kwezulu ngokubuyabuyelela
rainfall rate	lizinga lekuna	isilinganiso sokuna kwezulu
rainshowers	tihlambi	ilinalibalele
reflection	kubuya kuncandzeka kujika ubuye	ibuyisa
reflectivity	emandla ekubuya emandla ekuncandzeka emandla ekujika ubuya	amandla wokubuyisa
relative humidity	silinganiso semhwamuko	ubuswe

ENGLISH	SISWATI	ISINDEBELE
remote sensing	kubambela khashane/ekudzeni kuvela khashane/ekudzeni	ukuthebulela kude
satellite imagery	titifombe tesitfwebulimhlaba	iinthombe zesathalayithi
satellite navigation	kutfubeleta ngesitfwebulimhlaba	ikombandlela yesathalayithi
saturated adiabatic lapse rate	lizinga lengucukokushisa kwemoya logabhile lokutimele	izinga lokwehla nokunyuka kwesikhwamazingakutjhi sa esimanzana esivalekileko
saturated adiabats	umugcalizinga lemoya logabhile	umuda wokulinganisa ukwehla nokwenyuka kwesikhwamazingakutjhi sa esimanzana
saturated air	umoya logabhile	ummoya ogcwele ubuswe
saturation	kugabha	ukugcwala kommoya
saturation deficit	sisilelikugabha sikhebesikugabha sikhobosikugabha	ukuthayela komrhwamuko

ENGLISH	SISWATI	ISINDEBELE
saturation vapour pressure	luminyanomhwamuko lolugabhile	isigandelelo esibangwa mrhwamuko
sea breeze	umheleto waselwandle	ummoyana ophephetha kancani ophuma elwandle
sea level	kuphakama kwelwandle	ukuphakama kwelwandle
sea surface temperature	kushisa kwelingetulu lelwandle kushisa kwebuso belwandle	izingakutjhisa langaphezulu kwelwandle
seasonal variation	kugucugucuka ngetikhatsi temnyaka	ukutjhugutjhuguluka ngeenkhathi zonyaka
sensible heat	kushisa lokuvakalako	umtjhiso ozwakalako
sensor(weather instruments)	sitfungatsikuvela	Isizweleli
short wave radiation	imisebe yekushisa kwelilanga	umtjhiso welanga
solar radiation	imisebe yelilanga	imisebe yelanga
solstice	lusuku loludze nalolufisha emnyakeni isolistisi	imini ede nefitjhani enyakeni i-solistisi

ENGLISH**SISWATI****ISINDEBELE****South Pole**Sikhonkwane
Seningizimumhlaba
Ingcongwane
Yeningizimumhlaba

iPholi leSewula

southerliesumoya weningizimu
iningizimu

immimoya yesewula

specific humidity

umhwamukongco

ubuswe obunqhophileko

stabilitykusimama
kutinta

ubunzinzo

stratocumulus

lifu istrathokhumulasi

i-stratocumulus

stratopause

sitrathophozi

i-stratopause
istrathophozi**stratosphere**

sitrathosfiye

i-stratosphere
istrathosfiye**subsidence**

lwehlomoya

ukwehla

**subsidence
inversions**ingucukushisa
yelwehlomoyaiphekg hukomtjhis
ebangelwa kukwehla
kwesikhwama sommoya**subsiding air**umoya
lowehlako/lowewukako

ummoya owehlako

ENGLISH	SISWATI	ISINDEBELE
subtropic	ngasenjika	hlalelene nekabazwe
summer monsoon	imonsuni yasehlobo	mmoya wezulu oswe wehlobo
summer solstice	isolstisi yasehlobo	imini ede nobusuku obufitjhani enyakeni
sun	lilanga	ilanga
sun spots	ematfunti elilanga	amabala welanga
supercell storm	siphepho lesisikhatsa siphepho lesikhulu	isiwuruwuru
surface boundary layer	lingetulu lemkhawulo welibhande libhande lemkhawulo wangetulu	ilihla lomkhawulo ilarha lomkhawulo
surface condition	simo sangetulu bunjalo bangetulu	ubujamo belingaphezulu lomhlaba
surface inversion	ingucukushisa yangetulu luntjintjokushisa lwangetulu	iphekghukomtjhiso engaphezulu kwephasi
surface layer	libhande langetulu	ilihla langaphezulu lephasi

ENGLISH	SISWATI	ISINDEBELE
		ilarha langaphezulu lephasi
surface n.	lingetulu	ingaphezulu lephasi
surface pressure	luminyanomkhatsi lwangetulu	isigandelelo sangaphezulu lephasi
surface temperature	lizingakushisa langetulu	izingakutjhisa langaphezulu lephasi
surface wind	umoya wangetulu	ummoya ophetha ilingaphezulu lephasi
synoptic scale	ngekwwebubanti belive	ububanzilizwe
synoptic measurement	imininingwane yesimotulu lerekhodwa ngetikhatsitsite	isilinganiso sobubanzilizwe
synoptic oceanography	sifundvo ngemininingwane yelwandle ngetikhatsitsite	isifundo selwandlekazi lebanzilizwe
synoptic perturbations	kuphazamiseka endzaweni lebanti	ukutjhugutjhuguluka kubanzilizwe
synoptic scale transport	kutfutseleka endzaweni lebanti	ukuthutheka okubanzilizwe

ENGLISH	SISWATI	ISINDEBELE
temperate	sivuvu	lingeneko
temperate region	indzawo lesivuvu ngetulu kwenjika	isiphande setlayimethi elingeneko
temperature	lizingakushisa	lizingakutjhisa
temperature anomaly	imphambuko yelizingakushisa	izingakutjhisa elingakajayeleki
temperature control	kulawula lizingakushisa	ilawulo lezingakutjhisa
temperature distribution	kusabalalisa lizingakushisa	ukusatjalaliswa kwezingakutjhisa
temperature gradient	Kuntjintja/kugucuka kwelizingakushisa ngelibanga	ikombatjhuguluko ngezingakutjhisa ngebanga
temperature inversion	ingucukushisa luntjintjokushisa kugucuka kwelizingakushisa	iphekghukomtjhiso
temperature layering	kwakheka kwemabhande elizingakushisa	ukwakheka kwamalarha wezingakutjhisa

ENGLISH	SISWATI	ISINDEBELE
temperature measurement	kukalwa kwelizingakushisa	isilinganiso sezingakutjhisa
temperature profile	imininingwane ngebunjalo belizingakushisa	ubunjalo bezingakutjhisa
temperature tolerance	kubeketelela lizingakushisa	ukujamelana nezingakutjhisa
temporal variation	ingucungucuko ngesikhatsi	ukutjhuguluka ngesikhathi
tephigram	ithefigramu	i-tephigram
terrestrial radiation	imisebe yemhlaba	imisebe yephasi
thermal equator	libhande lelishisa kakhulu enkhabave libhandekushisa lokukhulu enkhabave	ikabazwe yazingakutjhisa
thermal expansion	kukhula lokubangwa kushisa luntjintjosimo lolubangwa kushisa	ukukhukhumaliswa mtjhiso

ENGLISH	SISWATI	ISINDEBELE
thermal gradient	kuntjintja kwekushisa ngelibanga kugucuka kwekushisa ngelibanga	ikombatjhuguluko ngezingakutjhisa ngebanga
thermal radiation	imisebe yekushisa	imisebe yokutjhisa
thermal stratification	emabhande labangwa kushisa	ukwakheka kwamahla wamazingakutjhisa
thermal wind	umoya lobangwa kuntjintjantjintja kwelizingakushisa ngelibanga	ummoya ophephethako obangwa kuhluka kwamazingakutjhisa
thermograph	itemografi	ikombamazingakutjhisa
thermometer	itemomitha/ithemomitha silinganisikushisa sikalikushisa	isilinganisizingakutjhisa/ ithemometha
thermopause	itemophosi	ithemophosi i-thermapause
thermosphere	itemosifiye	ithemosifiye i-thermosphere
thunder	kudvuma	ukuduma kwezulu

ENGLISH	SISWATI	ISINDEBELE
thunderstorms	tiphepho letinekudvuma	isiwuruwuru esinokuraramba
time series	luchungechunge lwetikhatsi	umlandelande ngesikhathi
topographic map	libalavemumo	umebhebujamo belingaphezulu lephasi
topography	sifundvo ngemumo welive ithophografi	isifundo ngobujamo belingaphezulu lephasi
tornado	ithonado inkanyamba	irimu
trade wind	umoya wenjikamphumalanga	imimmoya evela epumalanga
tropic of cancer	ithrophiki yekhensa	ijiko lekala ithrophikhi yekhensa
tropic of capricorn	ithrophiki yekhephrikhoni	ijiko lepunzi ithrophikhi yekhaphrikhoni
tropical cyclone	sishingishane senjika	isiwuruwuru esithuweleleko sethrophikhi

ENGLISH	SISWATI	ISINDEBELE
tropical disturbances	kuphazamiseka/kutsikam eteka kwenjika	ukuthikaziseka ko
tropical easterlies	umoya wemphumalanganjika imphumalanga njika	imimmoya yepumalanga kumathrophiki
tropical maritime airstream	umgudvumoya welwandle enjika	umthala wommoya welwandlekazi kumathrophiki
tropical storm	siphepho senjika	isiwuruwuru sethrophiki
tropical year	umnyakanjika	umnyaka wethrophiki
tropics	tinjika	amathrophiki
tropopause	ithrophophozi	ithrophophoz i-tropopause
troposphere	ithrophosfiye	ithrophosfiye i-troposphere
tropospheric perturbation	kuphazamiseka/kutsikameteka kuthrophosfiye	ukutjhugutjhuguluka kuthrophosifiye
tropospheric wind	umoya wethrophosfiye	imimmoya epephetha ku-troposphere

ENGLISH	SISWATI	ISINDEBELE
trough	ithrafu sihobodla seluminyanomkhatsi	ummoya ojikela ngesidleni
trough line	umugca wethrafu umugca wesihobodla	umuda wesigandeleli esiphasi
turbulence	buyaluyalu kuyacayaca	ubuyaluyalu
ultraviolet radiation	imisebe le-altravayolet imisebe lengabonakali	imisebe ye-ultraviolet
updraught	umoya lowenyuka ngemandla efini umoya lokhuphuka ngemandla efini	ummoya okhuphuka ngokurhabileko elifini
upper-level airflow	kuhamba kwemoya esigabeni lesiphakeme	ukukhamba phezulu kommoya
upper-level convergence	inhlanganomoya esigabeni lesiphakeme	ukuhlanguka kwesingana phezulu
upper-level divergence	inhlukanomoya esigabeni lesiphakeme	ukuhlukana kwemisingana phezulu
urban heat island	kushisa emkhatsinidolobha/ enkhabadolobha	isihlengele sokutjhisa kwedorobha

ENGLISH**SISWATI****ISINDEBELE**

valley inversions	ingucukushisa yesihosha	iphekghukomtjhiso lemrhobeni
valley wind	umoya wesihosha	ummoya ophephetha emrhobeni
vapour	umhwamuko	umrhwamuko
vapour pressure	luminyanomhwamuko	isigandelelo somrhwamuko
variability	nekugucugucuka nekuntjintjantjintja	izinga lokuhluka
variable n.	lugucugucuko luntjintjantjintjo	okutjhugulukako
variance	silinganiso sekwehlukana silinganisokwehlukana	silinganiso sokuhlukana
variation	kugucugucuka kuntjintjantjintja	umehluko
veering	kujikela ngesekudla kwemoya	ukutjhugulukela komtlhala wommoya ngesidleni
vernal equinox	kucala kwentwasahlobo kupuhla kwentwasahlobo	ukulingana kwemini nobusuku ethwasahlobo

ENGLISH	SISWATI	ISINDEBELE
vertical circulation	umjikeleto ngekuma ngco	umzombelezo ojamileko
vertical mixing	kucuba ngekuma ngco kuhlanganisa ngekuma ngco	ukuvanga okujamileko
vertical motion	umnyakato lome ngco/ lokhuphukako/ lowenyukako	ukukhamba rwe
vertical wind shear	kugucuka kwemoya ngekuphakama ingucukomoya ngekuphakama	ukutjhuguluka kommoya ngokuphakama
virtual temperature	lizingakushosa lekulinganisa imimoya	izingakutjhisa elicatjangelwako
viscosity	kunembuluka	izinga lokutjhuja
visibility	kubonakala	ukubonakala
vortex	kushwilana	isiyingilisi
vorticity	kushwileka	isilinganiso sokuyingiliza
Walker circulation	umjikeleto ngekwa-Walker	umzombelezo ngokuka-Walker

ENGLISH	SISWATI	ISINDEBELE
warm clouds	emafu lafutumele	amafu afuthuthumeleko
warm front	umsinga lofutumele	ummoya ofuthumeleko
waste heat	tinsalelakushisa	umtjhiso ongasenamsebenzi
water vapour	umhwamuko	umrhwamuko
wavelength	budze beligagasi	ubude bamaza
weather forecasting	kubhula/kubiketela/kuhla hluba/ kuphengula simo selitulu	ukubikezelo sobujamo bezulu
weather map	libalave lesimo selitulu/ lesimotulu	ummebhe wobujamo bezulu
weather n.	simo selitulu simotulu	ubujamo bezulu
westerlies	umoya wenshonalanga inshonalanga	imimmoya yetjingalanga
westerly low	luminyanomkhatsi loluphansi lwenshonalanga	ummoya wetjingalanga ojikela ngesidleni

ENGLISH**SISWATI****ISINDEBELE****wet adiabatic lapse rate**

lizinga lengucukokushisa yemoya lonemhwamuko lotimele

izinga lokwehla nokunyuka kwesikhwamazingakutjhi sa esimanzana esingatjhugulukiko

wet adiabats

umugcazinga wemoya lonemhwamuko

umuda wokulinganisa ukwehla nokwenyuka kwesikhwamazingakutjhi sa esimanzana

wet bulb temperature

lizingakushisa lemoya logabhile lizingakushisa lemoya lomanti nte

izingakutjhisa elilinganiswa ngethemometha emanzi

wind

umoya

ummoya ophephethako

wind direction

inkhombandlela yemoya

ikombo yommoya ophephethako

wind shear

kugucuka / kuntjintja kwemoya ngelibanga ingucukomoya/ luntjintjomoya ngelibanga

ukutjhuguluka kommoya ngokuphakama

wind speed

sivinini semoya litubane lemoya sivinimoya

ibelo lomoya

ENGLISH	SISWATI	ISINDEBELE
windward	ngasemoyeni	ncangemoyeni
year	umnyaka	unyaka
zonal	kuvundla	umzombelezo womudamhlaba ovundlako
zonal flow	kuhamba ngekuvundla kuphephetsa ngekuvundla	ukukhamba buvundla

REFERENCES

Collins Dictionary of the English Language. 1986 Hanks P. London: Collins Publishers.

Compact Oxford English Dictionary - Third edition. 2008. Oxford: Oxford University Press.

Concise Oxford Dictionary. 1999. 10th edition. J. Pearson. Oxford; Oxford University Press.

Concise Siswati Dictionary.1982. DK Rycroft. Pretoria: JL van Schaik Publishers.

English – Zulu Dictionary. 1958. CM Doke et al. Johannesburg: Witwatersrand University Press.

English –IsiNdebele-Afrikaans Trilingual Dictionary. 2015. Iziko Lesihlathululi-mezwi. SesiNdebele. Heritage Publishers.

English-Afrikaans-Siswati Terminology. 2008. Mpumalanga Department of Culture, Sport and Recreation.

Silulu seSiswati English-Siswati/Siswati-English Dictionary. 2010 Siswati National Lexicography Unit. Macmillan Boleswa Publishers.

Isindebele Monolingual Dictionary. 2014. Isindebele Dictionary Unit. Kalahari Productions.

IsiNdebele Terminology and Orthography no.1. 2000. Department of Education.

IsiNdebele-English Bilingual and Explanatory Dictionary. (2006). Iziko Lesihlathululi-mezwi. SesiNdebele. Phumelela Publishers.

Isichazamazwi SesiZulu. IsiZulu National Lexicography Unit. 2014. South African National Lexicography Units.

Ithemnoloji yeSiswati. Volume 2. 2003. Siswati Language Board.

Longman Dictionary of Contemporary English. 1995. Harlow, Essex: Longman Group.

Multilingual Natural Sciences & Technology list for grade 4 to 6. 2013. Department of Arts and Culture.

Orthography and Spelling Rules for Siswati No 1. 2008. Siswati Language Body.

Oseanologiewoordeboek/Dictionary of Oceanology. Prof Johann Lutjeharms. Cape Town. Pharos. 2004

Oxford South African concise dictionary 2nd edition. 2010. Dictionary Unit for south African English. Cape Town: Oxford University Press.

Sichazamagama Sesiswati. 2017. Siswati National Lexicography Unit. South African National Lexicography Units.

The Weather and Climate of Southern Africa. 2000 Tyson PD and Whyte RA. Cape Town. Oxford University Press Southern Africa,

The atmosphere and weather of Southern Africa. 1988 Preston-Whyte RA and Tyson PD. Cape Town: Oxford University Press